VIA ELECTRONIC MAIL

October 18, 2024

Karen A. Cahill
Division of Environmental Remediation
New York State Department of Environmental Conservation
Region 7
5786 Widewaters Parkway
Syracuse, NY 13214-1867

Subject: **Pre-Design Study Report - Buildings 3 and 4 Free Product Observation Wells and Product Surveillance**
Former Emerson Power Transmission (EPT) Site No. 755010
620 South Aurora Street, Ithaca, New York

Dear Karen:

WSP USA Inc. (WSP), on behalf of Emerson Electric Co. (Emerson), is submitting this Pre-design Study Report for the Buildings 3 and 4 Free Product Observation Well installation and surveillance conducted at the former Emerson Power Transmission (EPT) located in Ithaca, New York (Site). On February 24, 2023, a work plan was submitted to the New York State Department of Environmental Conservation (NYSDEC) to evaluate the potential presence and extent of non-aqueous phase liquid (NAPL) below Building 9 behind the east wall of Buildings 3 and 4 that was originally discovered during a Phase II Environmental Site Assessment (ESA) conducted in 2013. As part of the final remedy for the Site described in the approved Remedial Action Work Plan dated October 2, 2023, this area required further evaluation and potential NAPL removal. The following sections describe the original ESA findings, the actions performed during the work plan implementation, the results of the free product surveillance monitoring, and recommendations.

BACKGROUND

During the Phase II ESA conducted in 2013, a small diameter hole was cored through the wall in Building 4 to investigate the source of staining on the adjacent floor and evaluate soil and groundwater conditions behind the wall. Following the advancement of the core at sample location “LB-WB-1 WALL”, a water and NAPL mixture seeped through the hole. The NAPL was found to be primarily comprised of motor oil (73 percent) with a lesser amount of No. 2 fuel oil (27 percent). Following additional investigation activities, as shown in Figure 1, wall borings “B5-WALL” and “LB-WB-2 WALL” defined the extent of NAPL behind the wall in Building 4. At both the Boring B1 and B2 locations along the east wall of Buildings 3 and 4, a second boring was drilled approximately 4 feet above the finished floor; neither boring contained any liquid.

OBSERVATION WELL INSTALLATION

In accordance with the Buildings 3 and 4 NAPL Observation Well Work Plan, four free product observation wells (OW-01, OW-02, OW-03, and OW-04) were installed in Building 9, behind the eastern wall of Building 3 and Building 4. Before the observation wells were installed, utilities in the area were located. The observation wells were installed on February 27 and 28, 2023, by a WSP subcontractor using an air rotary drilling to a target depth of 15 feet below ground surface (bgs) or until refusal was encountered. A WSP geologist oversaw the drilling and well installation and logged the following details for each well:

WSP USA
Suite 300
13530 Dulles Technology Drive
Herndon, VA 20171

Tel.: +1 703 709-6500
Fax: +1 703 709-85058
wsp.com

- OW-01 was drilled to a depth of 13.5 feet bgs, hitting refusal. A 4-inch diameter polyvinyl chloride (PVC) casing was installed and screened from 6 to 13.5 feet bgs and backfilled with sand from 4 to 13.5 feet bgs with bentonite pellets installed from 3 to 4 feet bgs and grout to the surface.
- OW-02 was drilled to a depth of 11 feet bgs, hitting refusal. A 4-inch PVC casing was installed and screened from 3.5 to 11 feet bgs and backfilled with sand from 2.5 to 11 feet bgs with bentonite pellets installed from 1.5 to 2.5 feet bgs and grout to the surface.
- OW-03 was drilled to a depth of 13.75 feet bgs, hitting refusal. A 4-inch PVC casing was installed and screened from 6.25 to 13.75 feet bgs and backfilled with sand from 3.75 to 13.75 feet bgs with bentonite pellets installed from 2.75 to 3.75 feet bgs and grout to the surface.
- OW-04 was drilled to a depth of 13.5 feet bgs, hitting refusal. A 4-inch PVC casing was installed and screened from 6 to 13.5 feet bgs and backfilled with sand from 3.5 to 13.5 feet bgs with bentonite pellets installed from 2.5 to 3.5 feet bgs and grout to the surface.

Following installation, on March 1, 2023, the observation wells were developed using a manual surge block and pump. No measurable product was observed during development.

PRODUCT SURVEILLANCE

The observation wells were monitored for NAPL using an interface probe weekly for one month on March 1, March 8, March 14, March 20, and March 30, 2023. The four observation wells were then monitored quarterly for one year on April 14, June 29, and December 6, 2023 and February 16, 2024. During all monitoring events, no measurable thickness of NAPL was measured in the observation wells. Observation well measurements are summarized in Tables 1 through 4.

RECOMMENDATIONS

Monitoring in the four observation wells did not identify NAPL at the bedrock interface between the foundations of Building 9 and Buildings 3 and 4 during the product surveillance period. Therefore, WSP, on behalf of Emerson, is requesting NYSDEC approval to abandon the four observation wells OW-1, OW-2, OW-3, and OW-4. If approved, abandonment will be completed by grouting the wells in place and removing the flush-mount cover in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Policy.

The results of this Pre-Design study will be included in the Remedial Action Completion Report following completion of all remedial actions at the Site. WSP will continue quarterly passive product recovery and surveillance at groundwater wells identified to contain NAPL.

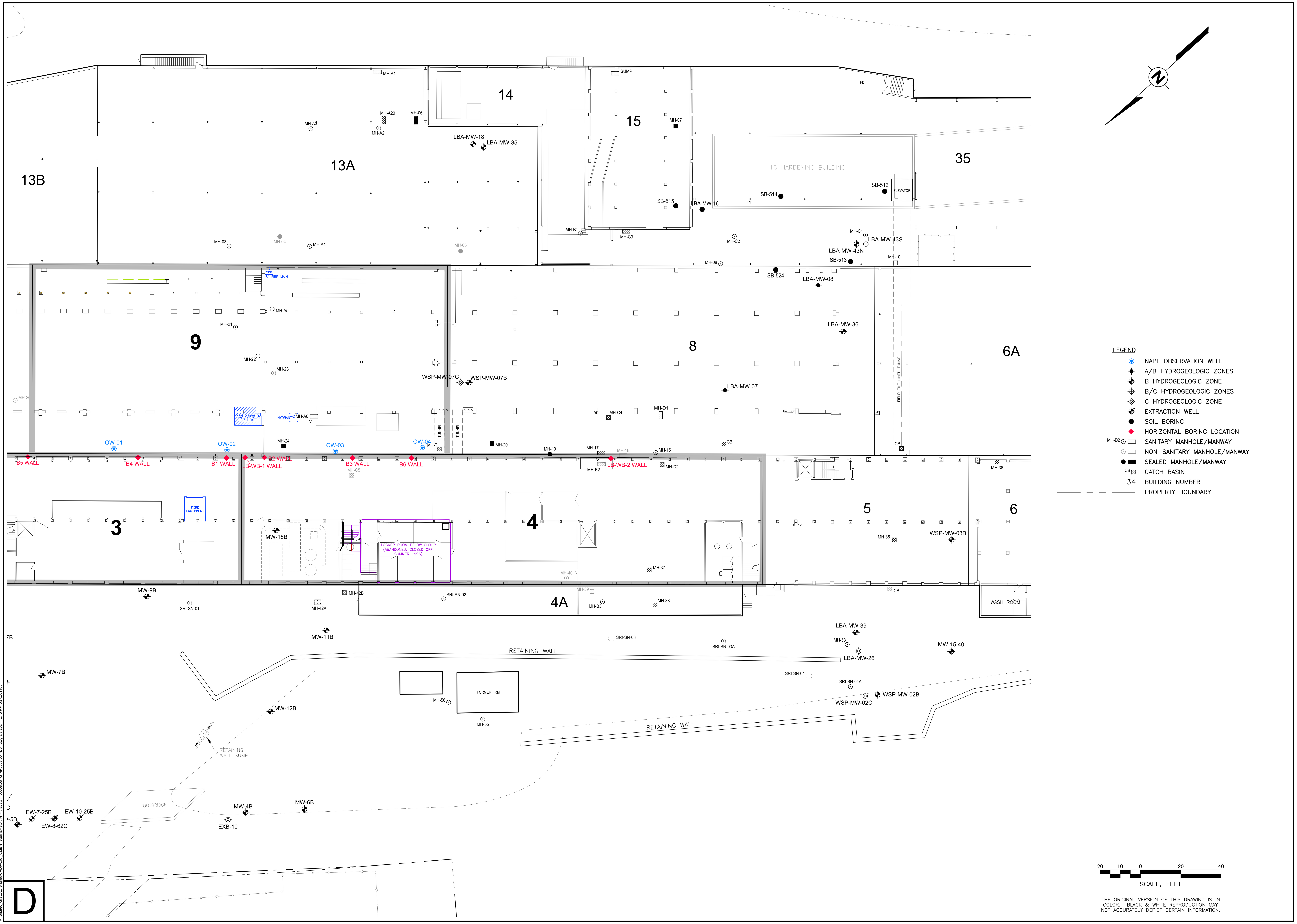
Sincerely yours,

Scott P. Haitz
Senior Vice President

David Rykaczewski, P.E.
Vice President

\\USHRN1SER01\es\Clients\Emerson\ITHACA_ $$RD-RA\Pre-design\NAPL Observation Buildings 3 and 4\Closure Letter
Enclosures
cc/encl.:
Anthony Perretta, NYSDOH
Steve Clarke, Emerson

FIGURE



REVISIONS

REV | DESCRIPTION

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NAPL OBSERVATION WELLS

FORMER EMERSON POWER TRANSMISSION SITE
ITHACA, NEW YORK

PREPARED FOR
EMERSON
ST. LOUIS, MISSOURI

WSP USA Inc.
13530 DULLES TECHNOLOGY DR, SUITE 300
HERNDON, VA 20171
TEL: +1 703.709.6500

FIGURE 1

Drawing Number
314P5608.001–D61

TABLES

Table 1
Building 3 and 4 Non-Aqueous Phase Liquid Observations
Former Emerson Power Transmissions
Ithaca, New York

Well Identification:	**OW-01**
Casing Diameter (inches):	**4**
Ground Elevation (ft amsl):	**600.71**
Top of Casing (ft amsl):	**600.44**
Total Depth (ft bgs):	**13.5**

Date	Depth to Product (ft btoc)	Depth to Water (ft btoc, b)		Apparent Product Thickness (feet)	Apparent Product Volume (gallons)	Groundwater Elevation (ft amsl)	Product Removal (gallons)				Water Removed (gallons)	
		Measured	Corrected				Bailer	Absorbent Sock	Total Quarterly	Total Cumulative	Total Quarterly	Total Water Bailed
March 1, 2023	NM	10.75	10.75	-	-	589.69	0.00	0.00	0.00	0.00	0.00	0.00
March 8, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 14, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 20, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 30, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
April 14, 2023	NM	11.11	11.11	-	-	589.33	0.00	0.00	0.00	0.00	0.00	0.00
June 29, 2023	NM	11.10	11.10	-	-	589.34	0.00	0.00	0.00	0.00	0.00	0.00
December 6, 2023	NM	11.05	11.05	-	-	589.39	0.00	0.00	0.00	0.00	0.00	0.00
February 16, 2024	NM	11.13	11.13	-	-	589.31	0.00	0.00	0.00	0.00	0.00	0.00

a/ Abbreviations: NM = no measurable product; ft = feet; amsl = above mean sea level; bgs = below ground surface; btoc = below top of casing; "-" = not applicable; N/A = Information Not Available

b/ All depth to water measurements were corrected to account for the depression caused by the weight of the light phase free product. For correction of the depth to water, the free phase product specific gravity of 0.90 was used.

Table 2
Building 3 and 4 Non-Aqueous Phase Liquid Observations
Former Emerson Power Transmissions
Ithaca, New York

Well Identification:	OW-02
Casing Diameter (inches):	4
Ground Elevation (ft amsl):	600.73
Top of Casing (ft amsl):	600.22
Total Depth (ft bgs):	13.5

Date	Depth to Product (ft btoc)	Depth to Water (ft btoc, b)		Apparent Product Thickness (feet)	Apparent Product Volume (gallons)	Groundwater Elevation (ft amsl)	Product Removal (gallons)				Water Removed (gallons)	
		Measured	Corrected				Bailer	Absorbent Sock	Total Quarterly	Total Cumulative	Total Quarterly	Total Water Bailed
March 1, 2023	NM	Dry	Dry	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 8, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 14, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 20, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 30, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
April 14, 2023	NM	9.16	9.16	-	-	591.06	0.00	0.00	0.00	0.00	0.00	0.00
June 29, 2023	NM	9.01	9.01	-	-	591.21	0.00	0.00	0.00	0.00	0.00	0.00
December 6, 2023	NM	9.01	9.01	-	-	591.21	0.00	0.00	0.00	0.00	0.00	0.00
February 16, 2024	NM	9.02	9.02	-	-	591.20	0.00	0.00	0.00	0.00	0.00	0.00

a/ Abbreviations: NM = no measurable product; ft = feet; amsl = above mean sea level; bgs = below ground surface; btoc = below top of casing; "-" = not applicable; N/A = Information Not Available

b/ All depth to water measurements were corrected to account for the depression caused by the weight of the light phase free product. For correction of the depth to water, the free phase product specific gravity of 0.90 was used.

Table 3
Building 3 and 4 Non-Aqueous Phase Liquid Observations
Former Emerson Power Transmissions
Ithaca, New York

Well Identification:	**OW-03**
Casing Diameter (inches):	**4**
Ground Elevation (ft amsl):	**600.73**
Top of Casing (ft amsl):	**600.23**
Total Depth (ft bgs):	**13.5**

Date	Depth to Product (ft btoc)	Depth to Water (ft btoc, b)		Apparent Product Thickness (feet)	Apparent Product Volume (gallons)	Groundwater Elevation (ft amsl)	Product Removal (gallons)				Water Removed (gallons)	
		Measured	Corrected				Bailer	Absorbent Sock	Total Quarterly	Total Cumulative	Total Quarterly	Total Water Bailed
March 1, 2023	NM	7.98	7.98	-	-	592.25	0.00	0.00	0.00	0.00	0.00	0.00
March 8, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 14, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 20, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 30, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
April 14, 2023	NM	9.15	9.15	-	-	591.08	0.00	0.00	0.00	0.00	0.00	0.00
June 29, 2023	NM	8.34	8.34	-	-	591.89	0.00	0.00	0.00	0.00	0.00	0.00
December 6, 2023	NM	8.39	8.39	-	-	591.84	0.00	0.00	0.00	0.00	0.00	0.00
February 16, 2024	NM	9.12	9.12	-	-	591.11	0.00	0.00	0.00	0.00	0.00	0.00

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b/ All depth to water measurements were corrected to account for the depression caused by the weight of the light phase free product. For correction of the depth to water, the free phase product specific gravity of 0.90 was used.

Table 4
Building 3 and 4 Non-Aqueous Phase Liquid Observations
Former Emerson Power Transmissions
Ithaca, New York

Well Identification:	**OW-04**
Casing Diameter (inches):	**4**
Ground Elevation (ft amsl):	**600.68**
Top of Casing (ft amsl):	**600.29**
Total Depth (ft bgs):	**13.5**

Date	Depth to Product (ft btoc)	Depth to Water (ft btoc, b)		Apparent Product Thickness (feet)	Apparent Product Volume (gallons)	Groundwater Elevation (ft amsl)	Product Removal (gallons)				Water Removed (gallons)	
		Measured	Corrected				Bailer	Absorbent Sock	Total Quarterly	Total Cumulative	Total Quarterly	Total Water Bailed
March 1, 2023	NM	8.39	8.39	-	-	591.90	0.00	0.00	0.00	0.00	0.00	0.00
March 8, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 14, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 20, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March 30, 2023	NM	N/A	N/A	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
April 14, 2023	NM	9.30	9.30	-	-	590.99	0.00	0.00	0.00	0.00	0.00	0.00
June 29, 2023	NM	9.43	9.43	-	-	590.86	0.00	0.00	0.00	0.00	0.00	0.00
December 6, 2023	NM	9.30	9.30	-	-	590.99	0.00	0.00	0.00	0.00	0.00	0.00
February 16, 2024	NM	9.38	9.38	-	-	590.91	0.00	0.00	0.00	0.00	0.00	0.00

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b/ All depth to water measurements were corrected to account for the depression caused by the weight of the light phase free product. For correction of the depth to water, the free phase product specific gravity of 0.90 was used.